done it in this short notice, but the author's conclusions are important. He asserts :—

> "That the rash and febrile symptoms which occur frequently as the immediate sequel of an operation are often those of scarlet fever; that the fever is, in some way as yet undetermined, dependent on the presence of the wound; and that when scarlet fever occurs under these circumstances, it undergoes certain deviations from the normal type of this disease" (p. 550). He says also that "there is evidence to show that there occurs sometimes after wounds and injuries what may be called a simple surgical erythema, often closely resembling the rash of scarlet fever, but independent of any connection with that disease; and that other eruptions of different type may similarly occur under like circumstances."

The last surgical paper in the volume is that of JOHN H. MORGAN, entitled *Some Remarks on the Diagnosis of Hip-joint Disease.* He calls attention to the wasting of the muscles of the affected limb as a diagnostic feature; and also lays stress on the pain felt when the surgeon attempts to abduct the thigh. This rigidity of the adductors and pectineus is not sufficiently insisted upon by most writers, but is, in our opinion, a very definite and early diagnostic point. The author seems to believe it always present, and states that next to these muscles those flexing the hip are most prone to become rigid. Hence, painful abduction and painful extreme extension are important signs of incipient coxalgia. Persistent elevation and obliquity of the pelvis, when the patient is recumbent, is possibly due, in his opinion, to reflex nerve irritation, causing spasm and rigidity of the iliac portions of the erector spinæ and quadratus lumborum muscles. Some indications for the differential diagnosis between coxalgia, rheumatism, and psoas rigidity, due to caries of the vertebræ, are also given by the author. A number of illustrative histories are added.

On the whole, this volume of Reports is good, because the great excellence of four or five papers atones for much that, in a scientific point of view, is decidedly inferior. Tables of cases are of little value to the profession unless analyzed by the compiler, and yet hospital reports are often filled with them. They add much to the expense of publication, and serve only as padding, unless judiciously discussed by those who had charge of the cases, and who are thus enabled to judge of the relative importance of the facts tabulated. J. B. R.

ART. XXVI.—*The Bacteria.* By Dr. ANTOINE MAGNIN, Licentiate of Natural Sciences, Chief of the Practical Labours in Natural History to the Faculty of Medicine of Lyons, etc. Translated by GEORGE M. STERNBERG, M.D., Surgeon U. S. Army. 12mo. pp. 227. Boston: Little, Brown & Co., 1880.

IN pursuing his valuable researches under the direction of our National Board of Health, Dr. Sternberg derived, as he tells us, so much assistance from Dr. Magnin's admirable *résumé* of our knowledge in regard to the bacteria, that he was led to translate the entire work, for the benefit of his American co-workers, and also for the much larger number of physicians and scientists, who, without being themselves original investigators, take a profound and constant interest in every fact which contributes to elucidate those great medical and hygienic questions depending upon the germ theory of disease.

In his excellent preface Dr. Sternberg comments upon the mistrust which has been felt by so many cautious observers, in regard to so-called diseases of bacteria, micrococci, etc., in human and animal organisms, and explains it on the ground that results have been so contradictory; eminent men of various countries asserting and denying the very existence of these objects, in the most persistent manner. As he justly remarks:—

> "Sometimes we are deceived by giving confidence to a man who has achieved reputation in one line of study, but of his skill and training in the use of the microscope we have no means of judging. Such a man may be a great clinician or a great chemist, and yet be a mere tyro with the microscope: when then we see it announced that Dr. So-and-so failed to discover any *micrococci* in pus, in blood, or what-not, taken from a certain source, we are justified in asking—first, what power did the learned doctor use? second, is he capable of distinguishing micrococci in fluids which contain them beyond all question? or, if he does discover them, we may ask if he is accustomed to making a differential diagnosis between micrococci and inorganic granular material, or unorganized granules of organic origin. This is a decision which the most accomplished microscopist is sometimes unable to make, except by the aid of chemical tests, and culture experiments."

To obviate this want of confidence in results Dr. Sternberg urges the preparation, whenever possible, of photo-micrographs, and rightfully claims for the National Health Board, the credit of first systematically adopting this method, for preserving a constant and unimpeachable record of the objects observed. As specimens of these indisputable proofs, heliotype reproductions of a number of Dr. Sternberg's own photo-micrographs are given in the volume, several of these being of a high order of excellence, and invaluable as illustrations of the descriptions contained in the text.

Our author defines bacteria as the lowest known organisms, situated upon the limit of the animal and vegetable kingdoms, and as being "cells deprived of chlorophyll, of globular, oblong, or cylindrical form, sometimes sinuous and twisted, reproducing themselves exclusively by transverse division, living isolated or in cellular families, and having affinities which approach them to the algæ, and especially to the oscillatoriæ." Bacteria were first discovered by Leuwenhoeck in 1675, and have been variously classified by different authors, but the arrangement of Cohn—into, 1, sphæro-bacteria or globular bacteria (micrococcus); 2, micro-bacteria or rod bacteria; 3, desmo-bacteria or filamentous bacteria; 4, spiro-bacteria or spiral bacteria—is probably the best.

Disputes among naturalists as to whether bacteria belong to the animal or vegetable kingdom, are now abandoned by mutual consent, but have been replaced by discussions as to whether they are to be ranged among the algæ, as contended by Davaine, Rabenhorst, and Cohn, or with the fungi as claimed by Robin and Nägeli. Another much mooted question is in regard to the existence of distinct well-defined species among the bacteria. Cohn dwells upon the impossibility of distinguishing with certainty genera and species among them, although he is convinced that they are divided into species (just as distinctly as the other plants and inferior animals) which our imperfect means of observation render us unable to recognize. Hallier, Billroth, Robin, Nägeli, and others, consider, on the other hand, the different forms of bacteria not as autonomous species, but as phases of development of one or perhaps of several species. Notwithstanding these opinions of the worthless nature of any supposed distinctive characters of bacteria, Dr. Magnin devotes over thirty pages to the classification and description of their genera and species, this portion of the work being profusely and instructively illustrated by plates, selected (apparently) by Dr. Sternberg, and furnished by this gentleman in part from his own photo-micrographs, prepared under the auspices of the National Board of Health.

Part second of this valuable little volume is devoted to the physiology of the bacteria, and comprises sections upon the origin of bacteria, their nutrition and respiration, their reproduction, their rôle in fermentation, putrefaction, virulent affections, etc. Of these divisions, that treating of the connection of bacteria with the contagious diseases has, of course, the greatest interest and importance to the medical profession. Pasteur, according to our author, was the first to affirm the parasitic nature of septicæmia, and his observations were confirmed by those of Coze and Feltz, Davaine, Hallier, and Béchamp. As, however, Zuelzer, Sonnerschein, and Riemschneider, attribute the septic accidents to the effect of an alkaloidal poison, denominated sepsine, and somewhat resembling atropia, whilst they failed to observe any similar results when bacteria alone were injected into animals, Dr. Magnin declares that in the presence of so many divergent opinions, each supported by scientific authorities, he "does not feel justified in adopting any definite conclusion."

In regard to charbon or malignant pustule, our author informs us that Davaine observed the presence of rod bacteria in the blood of patients affected with this disease as early as 1850, but did not attach any importance to the fact, until after Pasteur's observations were published in 1861. The assertion of Cohn that charbon is also the result of a peculiar chemical poison, and not produced by bacteria, is explained by Pasteur, Bert, and Toussaint, by a theory that there are several varieties of malignant pustule, some of them quite independent of the growth of bacillus anthracis.

In like manner variola is attributed to the development of a bacterium (Coze and Feltz) or to a micrococcus (Luginbuhl and Weigert); scarlatina to a micrococcus (Hallier); diphtheria to a bacterium (Tigri, Oertel, Letzerich); typhoid fever to a bacterium; glanders and farcy to a micrococcus; and relapsing fever to the spirochæte Obermeieri (Cohn).

The next section, upon the influence of bacteria upon surgical lesions, with special reference to Lister's antiseptic method, contains much of interest, but Dr. Magnin's final conclusion is, "As to the rôle (of bacteria) in fermentations, in putrefactions, in contagious diseases, and in surgical lesions, notwithstanding the considerable number of labours of which the bacteria have been the object, in these different points of view, it is not yet possible to define it in a certain manner."

A copious bibliography of thirty pages, brought down to date by the translator, adds more to the value of the work, which we must again thank Dr. Sternberg for giving to the medical profession of America. J. G. R.

ART. XXVII.—*A Manual of Diseases of the Throat and Nose.* By FRANCKE HUNTINGTON BOSWORTH, A.M., M.D., Lecturer on Diseases of the Throat in the Bellevue Hospital Medical College, etc. 8vo. pp. xx., 427. New York: Wm. Wood & Co., 1881.

THIS work, following so quickly upon the group noticed in the last issue of this journal, will be compelled to withstand a much severer test